

ER27258131405

CLAIMS

1. A hand-powered vehicle adapted for motion powered by certain of the muscles of a user, comprising:

(a) a frame

(b) at least two wheels attached to said frame;

(c) means for converting an alternating back and forth motion by two arms of said user into a rotary motion that is adapted to supply a torque to at least one of said at least two wheels and wherein when one arm is being pulled rearward the remaining arm is moving forward and wherein when said remaining arm is being pulled rearward said one arm is moving forward and wherein said torque is adapted to urge said hand-powered vehicle in a forward direction;

wherein said means for converting an alternating back and forth motion by two arms of said user into a rotary motion is adapted to supply said torque when a first force is alternately applied by said one arm to a first member sufficient to urge said first member from said forward position into said rearward position and

wherein when said first member is disposed at said rearward position said second force is applied by said remaining arm to said second member sufficient to urge said second member from said forward position into said rearward position;

wherein when said first force is being applied said second force is diminished and when said second force is being applied said first force is diminished;

wherein said means for converting an alternating back and forth motion by said two arms of said user into a rotary motion includes a first chain segment having a first end attached to a bottom of said first member and wherein said first chain segment extends around a freewheel that is attached to an axle and wherein said freewheel is adapted to urge said axle to rotate in accordance with said freewheel when said freewheel is rotated in a first direction and wherein said freewheel is adapted to coast with respect to said axle when said freewheel is rotated in an opposite direction and a second chain segment having a first end attached to a bottom of said second member and wherein said second chain segment extends around a second freewheel that is attached to said axle and wherein said second freewheel

is adapted to urge said axle to rotate in accordance with said second freewheel when said second freewheel is rotated in said first direction and wherein said second freewheel is adapted to coast with respect to said axle when said second freewheel is rotated in an opposite direction and including a drive gear attached to said axle, said drive gear adapted to urge a driven gear that is attached to a driven wheel to rotate in said first direction when either said freewheel or said second freewheel is rotated in said first direction; and

wherein said means for converting an alternating back and forth motion by two arms of said user into a rotary motion is adapted to produce said rotary motion if a first of said two arms is used to urge either said first or said second member alternately back and forth when said remaining one of said two arms is not being used to urge either said first or said second member and wherein said first and said second members require a user to stand on said frame.

2. The hand-powered vehicle of claim 1 including a single driven rear wheel and a pair of front wheels, said pair of

front wheels disposed in a spaced apart parallel orientation with respect to each other and wherein when said vehicle is leaned in a first direction said pair of front wheels are adapted to tilt so as to steer said vehicle in said first direction and when said vehicle is leaned in an opposite second direction said pair of front wheels are adapted to tilt so as to steer said vehicle in said second direction.

3. The hand-powered vehicle of claim 1 including a first shaft attached to said first member and a first idler gear attached to said shaft and a second shaft attached to said second member and a second idler gear attached to said second shaft, and wherein said first and said second idler gears engage with each other wherein motion by either member in either direction will cause the remaining member to move in an opposite direction.

4. The hand-powered vehicle of claim 1 wherein said vehicle is a scooter.

5. The hand-powered vehicle of claim 1 wherein said means for converting an alternating back and forth motion by two

arms of said user into a rotary motion is adapted to supply said torque when a first force is applied by said one arm to a first member sufficient to urge said first member from a forward position into a rearward position.

6. The hand-powered vehicle of claim 5 wherein said means for converting an alternating back and forth motion by two arms of said user into a rotary motion is adapted to supply said torque when a second force is applied by said remaining arm to a second member sufficient to urge said second member from a forward position into a rearward position.

7. The hand-powered vehicle of claim 1 wherein said freewheel and said second freewheel include clutch means.

8. The hand-powered vehicle of claim 1 including an internal gear hub attached to said driven wheel, said internal gear hub including at least two selectable gear ratios.

9. The hand-powered vehicle of claim 8 wherein said driven gear is attached to said hub.

10. The hand-powered vehicle of claim 8 wherein said hub includes at least five selectable gear ratios.
11. The hand-powered vehicle of claim 8 including a brake mechanism attached to said scooter.
12. The hand-powered vehicle of claim 11 wherein said brake mechanism includes a coaster brake that is attached to said hub.
13. The hand-powered vehicle of claim 1 including a first spring that is attached to an opposite end of said first chain segment at one end of said spring and wherein an opposite end of said spring is attached to said frame sufficient to apply a tension to said first chain segment.
14. The hand-powered vehicle of claim 13 including a first chain segment idler that bears against a portion of said first chain segment.

15. The hand-powered vehicle of claim 1 including a second spring that is attached to an opposite end of said second chain segment at one end of said second spring and wherein an opposite end of said second spring is attached to said frame sufficient to apply a tension to said second chain segment.

16. The hand-powered vehicle of claim 15 including a second chain segment idler that bears against a portion of said second chain segment.

17. (original): The hand-powered vehicle of claim 1 including means for varying the magnitude of torque that is applied to said driven wheel.

18. The hand-powered vehicle of claim 1 including means for providing a supplement source of power operatively attached to said driven wheel.

19. The hand-powered vehicle of claim 1 including a third freewheel attached to said axle and a supplemental source of power attached to said third freewheel.

20. The hand-powered vehicle of claim 19 wherein said supplemental source of power includes an electric motor.

21. The hand-powered vehicle of claim 19 wherein said supplemental source of power includes a gasoline motor.